CLAIMS

What is claimed is:

1. A process for forming a metallic tubular connector of the type having a cylindrical shell which extends circumferentially about a tubular body for joining said tubular connector to a conduit, comprising the steps of:

i. gripping a first end portion of a tubular metallic body, having a substantially uniform diameter and wall thickness, in a first forming machine that utilizes a first forming tool for contact with said tubular body;

ii. reducing the outside diameter of a second end portion of said tubular body and sloping the intermediate surface portion joining said uniform diameter first end portion and said reduced diameter second end portion;

iii. forming a first peripheral bead in the tubular body in said first end portion;

iv. gripping said tubular body first end portion on the portion thereof not adjoining said intermediate surface portion in a second forming machine that utilizes a second forming tool for contact with said tubular body intermediate surface portion, said second tool carrying a metallic socket on a first end portion thereof and having a longitudinal, central, axial passage extending from said first end portion for an axial length exceeding the diameter and at least the axial length of said tubular body reduced diameter second end portion;

v. axially advancing said second forming tool toward said tubular body such that said tubular body second end portion is freely received within said longitudinal passage, said second tool first end contacting said sloped

intermediate surface portion and forming a second peripheral bead adjacent said first peripheral bead; and

vi. compressing and locking an annular end surface of said socket between said first and second beads.

2. The process as in claim 1 wherein said forming tools are punches.

3. The process as in claim 1 wherein said two beads have a combined axial extent of at least four times the wall thickness of said tubular body, prior to undergoing the forming process.

4. The process as in claim 1 wherein said series of tools is comprised of three essentially equally spaced parallel rollers each having at least one protrusion extending from its outer peripheral surface and said minimal contact occurs substantially simultaneously between each of said at least one protrusion and said tubular body.

5. The process as in claim 1 wherein said tubular body is manufactured from a 5000 series aluminum alloy material.

6. The process as in claim 1 wherein after said first bead forming step, said first bead includes a predetermined gap at about the center of its axial extent.

7. The process as in claim 6 wherein said predetermined gap, in said first bead, acts as a buffer and provides room for additional compression of said first bead during the forming step for said second bead.